



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 190349

TO: Kellette Gale
Location: REM-5D20&5C18
Art Unit: 1621
Wednesday, May 24, 2006
Case Serial Number: 10/761591

From: Toby Port
Location: Biotech-Chem Library
REM-1A59
Phone: (571)272-2523

toby.port@uspto.gov

Search Notes

Dear Examiner Gale,

See attached results.

If you have any questions about this search feel free to contact me at any time.

Thank you for using STIC search services!

Toby Port
Technical Information Specialist
STIC Biotech/Chem Library
(571)272-2523

STIC SEARCH RESULTS FEEDBACK FORM

Biotech-Chem Library

Questions about the scope or the results of the search? Contact *the searcher or contact:*

Mary Hale, Information Branch Supervisor
571-272-2507 Remsen E01 D86

Voluntary Results Feedback Form

➤ I am an examiner in Workgroup: Example: 1610

➤ Relevant prior art **found**, search results used as follows:

- ☐ 102 rejection
- ☐ 103 rejection
- ☐ Cited as being of interest.
- ☐ Helped examiner better understand the invention.
- ☐ Helped examiner better understand the state of the art in their technology.

Types of relevant prior art found:

- ☐ Foreign Patent(s)
- ☐ Non-Patent Literature
(journal articles, conference proceedings, new product announcements etc.)

➤ Relevant prior art **not found**:

- ☐ Results verified the lack of relevant prior art (helped determine patentability).
- ☐ Results were not useful in determining patentability or understanding the invention.

Comments:

Drop off or send completed forms to STIC/Biotech-Chem Library Remsen Bldg.

190349

ACCESS DB #

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Scientific and Technical Information Center

SEARCH REQUEST FORM

Requester's Full Name: Kellette Gale Examiner #: 82061 Date: 5/16/06

Art Unit: 1621 Phone Number: 2-8038 Serial Number: 10/76/591

Location (Bldg/Room#): Rem 5020 (Mailbox #): Rem 5418 Results Format Preferred (circle): PAPER DISK

To ensure an efficient and quality search, please attach a copy of the cover sheet, claims, and abstract or fill out the following:

Title of Invention: See BIB

Inventors (please provide full names): _____

Earliest Priority Date: _____

Search Topic:

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known.

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search:

① Method for purifying phenol product stream using phenol & by-product of process for making phenol from sec-butyl benzene, under suitable reaction conditions w/ acid catalyst in order to convert by-product used to a reaction product.

② by-product being hydroxybutanone.

③ acidic catalysts being: zeolites, ion exchange resins ^{OR} ~~and~~ aluminas

④ temp = 50-250°C, pressure: 100psig

⑤ Please see all other Independent claims those dependent thereof. Stop at claim 24.

2/16/06
K. Gale

PEAU 1621

d bib abs
hit ind hit str



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UNITED STATES DEPARTMENT OF COMMERCE
 United States Patent and Trademark Office
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 P.O. Box 1450
 Alexandria, Virginia 22313-1450
 www.uspto.gov



Bib Data Sheet

CONFIRMATION NO. 4285

SERIAL NUMBER 10/761,591	FILING DATE 01/21/2004 RULE	CLASS 568	GROUP ART UNIT 1621	ATTORNEY DOCKET NO. TH2442 (US)
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APPLICANTS

Larry Wayne Payne, Houston, TX;

** CONTINUING DATA *****

This appln claims benefit of 60/445,528 02/06/2003

** FOREIGN APPLICATIONS *****

IF REQUIRED, FOREIGN FILING LICENSE GRANTED

** 04/23/2004

Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no	STATE OR COUNTRY TX	SHEETS DRAWING 1	TOTAL CLAIMS 31	INDEPENDENT CLAIMS 8
35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance				
Verified and Acknowledged Examiner's Signature _____ Initials _____				

ADDRESS

23632
 SHELL OIL COMPANY
 P O BOX 2463
 HOUSTON , TX
 772522463

TITLE

Method of making high purity phenol

FILING FEE RECEIVED 2048	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:	<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees (Filing) <input type="checkbox"/> 1.17 Fees (Processing Ext. of time) <input type="checkbox"/> 1.18 Fees (Issue) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit
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In the Claims:

1. (Original) A method, comprising:

purifying a phenol product stream, wherein said phenol product stream comprises phenol and a first concentration of a contaminant by-product of a process for making phenol derived from sec-butyl benzene, by contacting, under suitable reaction conditions, said phenol product stream with an acidic catalyst to thereby convert at least a portion of said contaminant by-product to a reaction product.
2. (Original) The method of claim 1 wherein said first concentration of said contaminant by-product is in the range of from about 3 ppmw to about 10,000 ppmw, and the amount of phenol in said phenol product stream is in the range of from 95 weight percent upwardly to about 100 weight percent of said phenol product stream.
3. (Original) The method of claim 2 wherein said contaminant by-product is hydroxybutanone.
4. (Original) The method of claim 3 further comprising:

yielding a treated phenol product stream having a second concentration of said contaminant by-product that is lower than said first concentration of said contaminant by-product.
5. (Original) The method of claim 4 wherein said second concentration of said contaminant by-product is less than 3 ppmw.
6. (Original) The method of claim 5 wherein said acidic catalyst is selected from the group of materials consisting of zeolites, ion exchange resins and aluminas.
7. (Original) The method of claim 6 wherein said suitable reaction conditions include a contacting temperature in the range of from about 50°C to about 250°C, a contacting pressure in the range upwardly to about 100 psig.

8. (Original) The method of claim 1 wherein said suitable reaction conditions include a contacting temperature in the range of from about 50°C to about 250°C, a contacting pressure in the range upwardly to about 100 psig.
9. (Original) The method of claim 8 further comprising:
- yielding a treated phenol product stream having a second concentration of said contaminant by-product that is lower than said first concentration of said contaminant by-product.
10. (Original) The method of claim 9 wherein said contaminant by-product is hydroxybutanone.
11. (Original) A method of purifying a phenol product stream, wherein said phenol product stream comprises phenol and a concentration of hydroxy butanone, said method comprises:
- contacting said phenol product stream with an acid catalyst; and
- yielding a purified phenol product having a reduced concentration of hydroxy butanone.
12. (Original) The method of claim 11 wherein said concentration of hydroxy butanone is in the range of from about 3 ppmw to about 10,000 ppmw and the amount of phenol in said phenol product stream is in the range of from 95 weight percent upwardly to about 100 weight percent of said phenol product stream.
13. (Original) The method of claim 12 wherein said contacting step is conducted under reaction conditions including a contacting temperature in the range of from about 50°C to about 250°C and a contacting pressure in the range upwardly to about 100 psig.
14. (Original) The method of claim 13 wherein said acid catalyst is selected from the group of materials consisting of zeolites, ion exchange resins and aluminas.

15. (Original) The method of claim 14 wherein said reduced concentration of hydroxy butanone of said purified phenol product is less than said concentration of hydroxy butanone of said phenol product stream.
16. (Original) A method as recited in claim 15 wherein said reduced concentration of hydroxy butanone of said purified phenol product is less than about 3 ppmw.
17. (Original) A method, comprising:

obtaining a phenol product stream derived from a mixed feed of cumene and sec-butyl benzene, wherein said phenol product stream includes a concentration of a contaminant;

contacting under purification conditions said phenol product stream with an acid catalyst; and

yielding a purified phenol product.
18. (Original) The method of claim 17 wherein said contaminant is an aliphatic hydroxy carbonyl compound and said concentration of said contaminant exceeds 3 ppmw.
19. (Original) The method of claim 18 wherein said purification conditions include a contacting temperature in the range of from about 50°C to about 250°C and a contacting pressure in the range upwardly to about 100 psig.
20. The method of claim 19 wherein said purified phenol product contains less than 3 ppmw of said contaminant.
21. (Original) The method of claim 20 wherein said phenol product stream includes phenol in an amount exceeding 99 weight percent of the phenol product stream and said contaminant is hydroxy butanone.
22. (Original) A method of making a high purity phenol product, said method comprises:

subjecting a mixed feed comprising cumene and sec-butyl benzene to oxidation conditions to yield an oxidation reaction product comprising sec-butyl benzene hydroperoxide and cumene hydroperoxide;

subjecting at least a portion of the sec-butyl benzene hydroperoxide and cumene hydroperoxide of said oxidation reaction product to decomposition reaction conditions to yield a cleavage reaction product comprising phenol, acetone, and methyl ethyl ketone;

separating said cleavage reaction product into at least a phenol product stream and another product stream wherein said phenol product stream comprises at least a portion of said phenol of said cleavage reaction product and a contaminant by-product; and

contacting under suitable purification reaction conditions said phenol product stream with an acid catalyst to thereby convert at least a portion of said contaminant by-product to a reaction product.

23. (Original) The method of claim 22 wherein said acid catalyst is selected from the group of catalyst materials consisting of zeolite compounds, cation exchange resins and aluminas.
24. (Original) The method of claim 21 wherein said contaminant by-product includes hydroxy butanone.

25. (Withdrawn) A purified phenol product, comprising:
phenol derived from sec-butyl benzene, wherein said purified phenol product has a non-contaminating concentration of a contaminant.
26. (Withdrawn) The purified phenol product of claim 22 wherein the amount of phenol is in the range of exceeding about 99 weight percent of said purified phenol product, and wherein said contaminant is an aliphatic hydroxy carbonyl compound, and wherein said non-contaminating concentration of said aliphatic hydroxy carbonyl compound is less than about 3 ppmw of said contaminant.

27. (Withdrawn) The purified phenol product of claim 23 wherein the amount of phenol is in the range exceeding 99.8 weight percent of said purified phenol product and wherein said non-contaminating concentration is less than 1 ppmw.
28. (Withdrawn) A phenol product, comprising:
a sec-butyl benzene derived phenol product having been purified by treatment with an acid catalyst.
29. (Withdrawn) A high priority phenol composition, comprising:

phenol derived from sec-butyl benzene containing less than about 3 ppmw hydroxybutanone.
30. (Withdrawn) A system for treating a phenol product stream containing a concentration of a contaminant, said system comprises:

a reactor defining a reaction zone wherein contained within said reaction zone is an acidic catalyst and phenol.
31. (Withdrawn) A purified phenol product manufactured by any one of the methods of claims 1-21.

P.D. 2/6/2003

10/761,591

Gale

=> file reg; d ide 14 1-8

FILE 'REGISTRY' ENTERED AT 16:40:48 ON 23 MAY 2006

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PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 22 MAY 2006 HIGHEST RN 885262-53-3

DICTIONARY FILE UPDATES: 22 MAY 2006 HIGHEST RN 885262-53-3

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

L4 ANSWER 1 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN

RN 9037-24-5 REGISTRY

ED Entered STN: 16 Nov 1984

CN Amberlyst 15 (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Amberlyst 15 DRY

CN Amberlyst 15 Wet

CN Amberlyst 15(H)

DR 550365-45-2, 54241-79-1

ENTE A sulfonated styrene-divinylbenzene copolymer cation exchange resin

MF Unspecified

CI PMS, COM, MAN

PCT Manual registration

LC STN Files: BIOSIS, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CSCHEM, IFICDB, IFIPAT, IFIUDB, MSDS-OHS, PROMT, TOXCENTER, USPAT2, USPATFULL

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1453 REFERENCES IN FILE CA (1907 TO DATE)
45 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1455 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L4 ANSWER 2 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN

RN 7439-98-7 REGISTRY

ED Entered STN: 16 Nov 1984

CN Molybdenum (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN Amperit 105.054

CN Amperit 106.2

CN MChVL

CN Metco 63

CN Molybdenum element

CN NSC 600660

CN NSC 600661

CN NSC 600665

CN NSC 603570

CN NSC 603571

CN NSC 603572

CN TMOIO

CN Tsm1

MF Mo

CI COM

LC STN Files: AGRICOLA, ANABSTR, AQUIRE, BIOSIS, BIOTECHNO, CA, CABA, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, PIRA, PROMT, RTECS*, TOXCENTER, TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB

(*File contains numerically searchable property data)

Other Sources: DSL**, EINECS**, TSCA**

(**Enter CHEMLIST File for up-to-date regulatory information)

Mo

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

118298 REFERENCES IN FILE CA (1907 TO DATE)

5721 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

118453 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L4 ANSWER 3 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN

RN 5077-67-8 REGISTRY

ED Entered STN: 16 Nov 1984

CN 2-Butanone, 1-hydroxy- (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN 1-Hydroxy-2-butanone

CN 2-Oxobutan-1-ol

CN 2-Oxobutanol

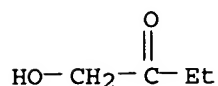
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MF C4 H8 O2

CI COM

LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CSCHM, IFICDB, IFIPAT, IFIUDB, MEDLINE, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
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Other Sources: DSL**, EINECS**, TSCA**
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

257 REFERENCES IN FILE CA (1907 TO DATE)
258 REFERENCES IN FILE CAPLUS (1907 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 4 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
RN 1344-28-1 REGISTRY
ED Entered STN: 16 Nov 1984
CN Aluminum oxide (Al₂O₃) (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN α-Alumina
CN α-Aluminum oxide
CN δ-Alumina
CN δ-Aluminum oxide
CN η-Alumina
CN γ-Alumina
CN γ-Aluminum oxide
CN κ-Alumina
CN κ-Aluminum oxide
CN 1067-2M
CN 201P2
CN 202P1
CN 24A
CN 272LA-A5
CN 2N
CN 2N (alumina)
CN 32A
CN 38A
CN 50A
CN 50AWA16
CN 9139A
CN A 1
CN A 1 (sorbent)
CN A 10
CN A 100
CN A 100 (oxide)
CN A 11
CN A 11 (support)
CN A 12
CN A 12 (metal oxide)
CN A 12-4
CN A 13L
CN A 13UG
CN A 14
CN A 14 (alumina)
CN A 14C-M
CN A 152GR
CN A 152SG
CN A 16

CN A 16SG
CN A 16UG
CN A 17
CN A 17NE
CN A 18
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CN A 20
CN A 20 (alumina)
CN A 202HF
CN A 21
CN A 21 (alumina)

ADDITIONAL NAMES NOT AVAILABLE IN THIS FORMAT - Use FCN, FIDE, or ALL for
DISPLAY

DR 457654-46-5, 546141-61-1, 663170-52-3, 170448-81-4, 165390-91-0,
12522-88-2, 12737-16-5, 163581-50-8, 122784-35-4, 127361-04-0, 53809-96-4,
54352-04-4, 131689-14-0, 135152-65-7, 135667-70-8, 67853-35-4, 67894-14-8,
67894-42-2, 68189-68-4, 68389-42-4, 68389-43-5, 138361-58-7, 76363-81-0,
74871-10-6, 148619-39-0, 153858-98-1, 152743-26-5, 84149-21-3, 90669-62-8,
39354-49-9, 107462-07-7, 107874-14-6, 157516-29-5, 190401-78-6,
200295-99-4, 205316-36-5, 209552-43-2, 230616-05-4, 252756-35-7,
253606-45-0, 253606-46-1, 253606-47-2, 268724-08-9, 334869-46-4,
488831-46-5

MF AL2 O3

CI COM, MAN

LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO, CA, CABA,
CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST,
CHEMSAFE, CIN, CSCHM, CSNB, DDFU, DETHERM*, DRUGU, EMBASE, ENCOMPLIT,
ENCOMPLIT2, ENCOMPAT, ENCOMPAT2, HSDB*, IFICDB, IFIPAT, IFIUDB, IPA,
MEDLINE, MRCK*, MSDS-OHS, PDLCOM*, PIRA, PROMT, RTECS*, TOXCENTER,
TULSA, ULIDAT, USPAT2, USPATFULL, VETU, VTB
(*File contains numerically searchable property data)
Other Sources: DSL**, EINECS**, TSCA**
(**Enter CHEMLIST File for up-to-date regulatory information)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

257938 REFERENCES IN FILE CA (1907 TO DATE)
2568 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
258559 REFERENCES IN FILE CAPLUS (1907 TO DATE)
1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 5 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN

RN 513-86-0 REGISTRY

ED Entered STN: 16 Nov 1984

CN 2-Butanone, 3-hydroxy- (8CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN (+)-3-Hydroxybutan-2-one

CN (+)-Acetoin

CN γ -Hydroxy- β -oxobutane

CN 1-Hydroxyethyl methyl ketone

CN 2,3-Butanolone

CN 2-Hydroxy-3-butanone

CN 3-Hydroxy-2-butanone

CN 3-Oxo-2-butanol

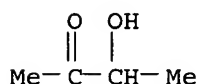
CN acetoin

CN Acetoin

CN Acetyl methyl carbinol

CN Dimethylketol

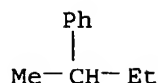
CN DL-Acetoin
 CN Methanol, acetylmethyl-
 CN NSC 7609
 FS 3D CONCORD
 DR 52217-02-4
 MF C4 H8 O2
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, BIOTECHNO, CA, CABA,
 CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMINFORMRX, CHEMLIST,
 CHEMSAFE, CIN, CSCHM, CSNB, DETHERM*, EMBASE, GMELIN*, HSDB*, IFICDB,
 IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, PIRA, PROMT, PS,
 RTECS*, SPECINFO, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
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 Other Sources: DSL**, EINECS**, TSCA**
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

3811 REFERENCES IN FILE CA (1907 TO DATE)
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 3820 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 21 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

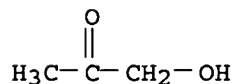
L4 ANSWER 6 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
 RN ~~135-98-8~~ REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Benzene, sec-butyl- (8CI)
 OTHER NAMES:
 CN ~~(±)~~-sec-Butylbenzene
 CN (α-Methylpropyl)benzene
 CN (1-Methylpropyl)benzene
 CN (RS)-2-Phenylbutane
 CN 2-Phenylbutane
 CN NSC 8466
 CN sec-Butylbenzene
 FS 3D CONCORD
 DR 36383-15-0
 MF C10 H14
 CI COM
 LC STN Files: AGRICOLA, ANABSTR, BEILSTEIN*, BIOSIS, CA, CAOLD, CAPLUS,
 CASREACT, CHEMCATS, CHEMINFORMRX, CHEMLIST, CHEMSAFE, CSCHM, DETHERM*,
 ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*, HSDB*, IFICDB,
 IFIPAT, IFIUDB, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT, RTECS*, SPECINFO,
 TOXCENTER, ULIDAT, USPAT2, USPATFULL
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 Other Sources: DSL**, EINECS**, TSCA**
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****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

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 1505 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

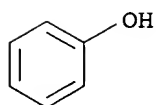
L4 ANSWER 7 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 116-09-6 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN 2-Propanone, 1-hydroxy- (8CI, 9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN 2-Propanone, hydroxy- (6CI)
 OTHER NAMES:
 CN α -Hydroxyacetone
 CN 1-Hydroxy-2-propanone
 CN 2-Oxopropanol
 CN Acetol
 CN Acetone alcohol
 CN Acetylcarbinol
 CN Acetylmethanol
 CN Hydroxyacetone
 CN Hydroxymethyl methyl ketone
 CN Hydroxypropanone
 CN Methanol, acetyl-
 CN NSC 102497
 CN Rongal 5242
 FS 3D CONCORD
 MF C3 H6 O2
 CI COM
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 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



****PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT****

1645 REFERENCES IN FILE CA (1907 TO DATE)
 28 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 1651 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 27 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

L4 ANSWER 8 OF 8 REGISTRY COPYRIGHT 2006 ACS on STN
 RN 108-95-2 REGISTRY
 ED Entered STN: 16 Nov 1984
 CN Phenol (8CI, 9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN Benzenol
 CN Carboic acid
 CN ENT 1814
 CN Hydroxybenzene
 CN Monohydroxybenzene
 CN Monophenol
 CN NSC 36808
 CN Oxybenzene
 CN Phenic acid
 CN Phenyl alcohol
 CN Phenyl hydrate
 CN Phenyl hydroxide
 CN Phenylic acid
 CN Phenylic alcohol
 FS 3D CONCORD
 DR 8002-07-1, 14534-23-7, 50356-25-7
 MF C6 H6 O
 CI COM
 LC STN Files: ADISNEWS, AGRICOLA, ANABSTR, AQUIRE, BEILSTEIN*, BIOSIS,
 BIOTECHNO, CA, CABA, CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS,
 CHEMINFORMRX, CHEMLIST, CHEMSAFE, CIN, CSCHEM, CSNB, DDFU, DETHERM*,
 DRUGU, EMBASE, ENCOMPLIT, ENCOMPLIT2, ENCOMPPAT, ENCOMPPAT2, GMELIN*,
 HSDB*, IFICDB, IFIPAT, IFIUDB, IPA, MEDLINE, MRCK*, MSDS-OHS, NAPRALERT,
 PATDPASPC, PDLCOM*, PIRA, PROMT, PS, RTECS*, SPECINFO, SYNTHLINE,
 TOXCENTER, TULSA, ULIDAT, USAN, USPAT2, USPATFULL, VETU, VTB
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
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PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

72689 REFERENCES IN FILE CA (1907 TO DATE)
 10460 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 72835 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 11 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

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FILE COVERS 1907 - 23 May 2006 VOL 144 ISS 22
FILE LAST UPDATED: 22 May 2006 (20060522/ED)

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L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON 135-98-8
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON 108-95-2
L7 251 SEA FILE=CAPLUS ABB=ON PLU=ON L5 (L) RACT+ALL/RL
L8 5929 SEA FILE=CAPLUS ABB=ON PLU=ON L6 (L) PREP+ALL/RL
L9 19 SEA FILE=CAPLUS ABB=ON PLU=ON L7 AND L8

L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON 135-98-8
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON 108-95-2
L7 251 SEA FILE=CAPLUS ABB=ON PLU=ON L5 (L) RACT+ALL/RL
L8 5929 SEA FILE=CAPLUS ABB=ON PLU=ON L6 (L) PREP+ALL/RL
L9 19 SEA FILE=CAPLUS ABB=ON PLU=ON L7 AND L8
L10 10 SEA FILE=CAPLUS ABB=ON PLU=ON L9 AND (?CATAL? OR CAT/RL OR PUR/RL)

L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON 135-98-8
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON 108-95-2
L7 251 SEA FILE=CAPLUS ABB=ON PLU=ON L5 (L) RACT+ALL/RL
L8 5929 SEA FILE=CAPLUS ABB=ON PLU=ON L6 (L) PREP+ALL/RL
L9 19 SEA FILE=CAPLUS ABB=ON PLU=ON L7 AND L8
L11 1 SEA FILE=REGISTRY ABB=ON PLU=ON 5077-67-8
L12 1 SEA FILE=CAPLUS ABB=ON PLU=ON L9 AND L11

L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON 135-98-8
L7 251 SEA FILE=CAPLUS ABB=ON PLU=ON L5 (L) RACT+ALL/RL
L13 3966 SEA FILE=CAPLUS ABB=ON PLU=ON PHENOLS+PFT/CT (L) PREP+ALL/RL
L14 2 SEA FILE=CAPLUS ABB=ON PLU=ON L13 AND L7

L5 1 SEA FILE=REGISTRY ABB=ON PLU=ON 135-98-8
L6 1 SEA FILE=REGISTRY ABB=ON PLU=ON 108-95-2
L7 251 SEA FILE=CAPLUS ABB=ON PLU=ON L5 (L) RACT+ALL/RL
L8 5929 SEA FILE=CAPLUS ABB=ON PLU=ON L6 (L) PREP+ALL/RL
L9 19 SEA FILE=CAPLUS ABB=ON PLU=ON L7 AND L8
L18 15 SEA FILE=CAPLUS ABB=ON PLU=ON (?ACID? OR ?ZEOLITE? OR ?ALUMINA? OR ION EXCHANG?) AND L9

=> s l9 or l10 or l12 or l14 or l18

L19 L9 OR L10 OR L12 OR L14 OR L18

=> d libib ed abs hitind hitstr l19 1-20

L19 ANSWER 1 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:149630 CAPLUS

DOCUMENT NUMBER: 144:213173

TITLE: Production of bisphenol-A and co-producing methyl ethyl ketone

INVENTOR(S): Smith, Charles M.; Davoren, Dennis J.; Stanat, Jon E. R.

PATENT ASSIGNEE(S): Exxonmobil Chemical Patents Inc., USA; Exxonmobil Chemical Limited

SOURCE: PCT Int. Appl., 33 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

N.G.D.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006015825	A1	20060216	WO 2005-EP8554	20050805
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.:

US 2004-601755P

P 20040813

ED Entered STN: 17 Feb 2006

AB A process for producing bisphenol-A and co-producing Me Et ketone comprises alkylating benzene with a C3 alkylating agent in a first reaction zone to produce cumene and alkylating benzene with a C4 alkylating agent in a second reaction zone sep. from said first reaction zone to produce secbutylbenzene. The cumene and sec-butylbenzene are then oxidized, either sep. or as a mixture, to produce the corresponding hydroperoxides and the hydroperoxides are cleaved, either sep. or as a mixture, to produce phenol, acetone and Me Et ketone. The phenol, Me Et ketone and acetone are separated and at least part of the acetone and phenol are reacted to produce bisphenol-A.

IC ICM C07C039-16

ICS C07C037-20; C07C045-53; C07C002-10; C07C037-08; C07C039-04

CC 35-2 (Chemistry of Synthetic High Polymers)

IT Zeolites (synthetic), uses

RL: CAT (Catalyst use); USES (Uses)

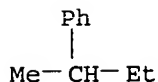
(ERB 1, ITQ 2, MCM 36, MCM 56, PSH 3, SSZ 25, alkylation catalyst; alkylation of benzene using zeolite alkylation catalyst for production of bisphenol-A)

IT Molecular sieves

(ITQ 1, alkylation catalyst; alkylation of benzene using zeolite alkylation catalyst for production of

- bisphenol-A)
- IT MCM zeolites
RL: CAT (Catalyst use); USES (Uses)
(MCM-49, MCM zeolites, MCM-49, alkylation catalyst;
alkylation of benzene using zeolite alkylation
catalyst for production of bisphenol-A)
- IT Zeolite MCM-22
RL: CAT (Catalyst use); USES (Uses)
(Zeolite MCM-22, alkylation catalyst; alkylation of
benzene using zeolite alkylation catalyst for
production of bisphenol-A)
- IT Beta zeolites
RL: CAT (Catalyst use); USES (Uses)
(alkylation catalyst; alkylation of benzene using
zeolite alkylation catalyst for production of
bisphenol-A)
- IT Alkylation
Alkylation catalysts
Oxidation
(alkylation of benzene using zeolite alkylation
catalyst for production of bisphenol-A)
- IT 106-98-9, 1-Butene, reactions 107-01-7, 2-Butene 115-07-1, Propylene,
reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(alkylating agent; alkylation of benzene using zeolite
alkylation catalyst for production of bisphenol-A)
- IT 12173-28-3, Faujasite ((K0-1Na0-1Ca0-0.5)3.2-3.8(Al3.2-3.8Si8.2-
8.8O24).16H2O) 12173-98-7, Mordenite
RL: CAT (Catalyst use); USES (Uses)
(alkylation catalyst; alkylation of benzene using
zeolite alkylation catalyst for production of
bisphenol-A)
- IT 104-15-4, p-Toluenesulfonic acid, uses 7446-09-5, Sulfur
dioxide, uses 7446-11-9, Sulfur trioxide, uses 7601-90-3, Perchloric
acid, uses 7637-07-2, Boron trifluoride, uses 7647-01-0,
Hydrochloric acid, uses 7664-38-2, Phosphoric acid,
uses 7664-93-9, Sulfuric acid, uses 7705-08-0, Ferric
chloride, uses
RL: CAT (Catalyst use); USES (Uses)
(homogeneous catalyst; alkylation of benzene using
zeolite alkylation catalyst for production of
bisphenol-A)
- IT 135-98-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(intermediate; production of bisphenol-A and co-producing Me Et ketone)
- IT 7787-35-1, Barium manganese oxide (BaMnO4)
RL: CAT (Catalyst use); USES (Uses)
(oxidation catalyst; production of bisphenol-A and co-producing Me
Et ketone)
- IT 67-64-1P, Acetone, preparation 78-93-3P, 2-Butanone, preparation
108-95-2P, Phenol, preparation
RL: BYP (Byproduct); PREP (Preparation)
(production of bisphenol-A and co-producing Me Et ketone by oxidation of
sec-butylbenzene)
- IT 135-98-8P
RL: IMF (Industrial manufacture); RCT (Reactant); PREP
(Preparation); RACT (Reactant or reagent)
(intermediate; production of bisphenol-A and co-producing Me Et ketone)
- RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



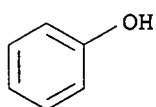
IT 108-95-2P, Phenol, preparation

RL: BYP (Byproduct); PREP (Preparation)

(production of bisphenol-A and co-producing Me Et ketone by oxidation of sec-butylbenzene)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 2 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2006:147702 CAPLUS

DOCUMENT NUMBER: 144:234975

TITLE: Process for producing phenol and methyl ethyl ketone

INVENTOR(S): Cheng, Jane Chi-Ya; Buchanan, John S.; Levin, Doron; Steckel, Michael A.; Dakka, Jihad M.; Stokes, James P.; Robbins, John L.; Stanat, Jon E. R.; Smith, Charles M.; Santiesteban, Jose Guadalupe

PATENT ASSIGNEE(S): Exxonmobil Chemical Patents, Inc., USA; Exxonmobil Chemical Limited

SOURCE: PCT Int. Appl., 43 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006015826	A1	20060216	WO 2005-EP8557	20050805
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

PRIORITY APPLN. INFO.:

US 2004-601661P P 20040813

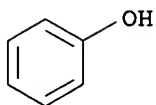
ED Entered STN: 17 Feb 2006

AB A process for producing phenol and Me Et ketone comprises contacting

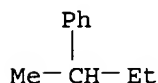
benzene with a C4 alkylating agent under alkylation conditions with **catalyst** comprising a β - zeolite or a mol. sieve having an X-ray diffraction pattern including d-spacing maxima at 12.4 ± 0.25 , 6.9 ± 0.15 , 3.57 ± 0.07 and 3.42 ± 0.07 Angstrom to produce an alkylation effluent comprising sec-butylbenzene (I). I is then oxidized to produce a hydroperoxide and the hydroperoxide is decomposed to produce phenol and Me Et ketone. Using this **catalyst** provided I substantially free of isobutylbenzene and tert-butylbenzene byproducts.

- IC ICM C07C002-70
ICS C07C015-02; C07C039-04; C07C045-53; C07C049-10; C07C409-08;
C07C037-08
- CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 23, 25, 67
- ST phenol MEK simultaneous manuf benzene alkylation; secondary butylbenzene
manuf benzene alkylation beta **zeolite catalyst**; mol
sieve **catalyst** alkylation benzene secondary butylbenzene manuf
- IT Molecular sieves
(ITQ 1, UZM 8; producing phenol and Me Et ketone by **zeolite-**
catalyzed alkylation of benzene, followed by oxidation of
sec-butylbenzene intermediate)
- IT MCM **zeolites**
RL: **CAT (Catalyst use)**; **USES (Uses)**
(MCM-49; producing phenol and Me Et ketone by **zeolite-**
catalyzed alkylation of benzene, followed by oxidation of
sec-butylbenzene intermediate)
- IT **Zeolites** (synthetic), uses
RL: **CAT (Catalyst use)**; **USES (Uses)**
(SSZ-25, PSH-3, ERB-1, ITQ-2, MCM-36, MCM-56; producing phenol and Me
Et ketone by **zeolite-catalyzed** alkylation of
benzene, followed by oxidation of sec-butylbenzene intermediate)
- IT Alkylation **catalysts**
(producing phenol and Me Et ketone by **zeolite-**
catalyzed alkylation of benzene, followed by oxidation of
sec-butylbenzene intermediate)
- IT Beta **zeolites**
Zeolite MCM-22
RL: **CAT (Catalyst use)**; **USES (Uses)**
(producing phenol and Me Et ketone by **zeolite-**
catalyzed alkylation of benzene, followed by oxidation of
sec-butylbenzene intermediate)
- IT 78-93-3P, MEK, preparation 108-95-2P, Phenol, preparation
RL: **IMF (Industrial manufacture)**; **PREP (Preparation)**
(producing phenol and Me Et ketone by **zeolite-**
catalyzed alkylation of benzene, followed by oxidation of
sec-butylbenzene intermediate)
- IT 135-98-8P, sec-Butylbenzene
RL: **IMF (Industrial manufacture)**; **RCT (Reactant)**; **PREP**
(Preparation); **RACT (Reactant or reagent)**
(producing phenol and Me Et ketone by **zeolite-**
catalyzed alkylation of benzene, followed by oxidation of
sec-butylbenzene intermediate)
- IT 878559-55-8, UZM 8
RL: **NUU (Other use, unclassified)**; **USES (Uses)**
(producing phenol and Me Et ketone by **zeolite-**
catalyzed alkylation of benzene, followed by oxidation of
sec-butylbenzene intermediate)
- IT 71-43-2, Benzene, reactions 107-01-7, 2-Butene 25167-67-3, Butene
RL: **RCT (Reactant)**; **RACT (Reactant or reagent)**
(producing phenol and Me Et ketone by **zeolite-**
catalyzed alkylation of benzene, followed by oxidation of

sec-butylbenzene intermediate)
 IT 108-95-2P, Phenol, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (producing phenol and Me Et ketone by zeolite-
 catalyzed alkylation of benzene, followed by oxidation of
 sec-butylbenzene intermediate)
 RN 108-95-2 CAPLUS
 CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT 135-98-8P, sec-Butylbenzene
 RL: IMF (Industrial manufacture); RCT (Reactant); PREP
 (Preparation); RACT (Reactant or reagent)
 (producing phenol and Me Et ketone by zeolite-
 catalyzed alkylation of benzene, followed by oxidation of
 sec-butylbenzene intermediate)
 RN 135-98-8 CAPLUS
 CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 3 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2004:654788 CAPLUS
 DOCUMENT NUMBER: 141:175859
 TITLE: Catalytic method for making high-purity
 phenol
 INVENTOR(S): Payne, Larry Wayne
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 9 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

Applicant
N.G.D.

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004158105	A1	20040812	US 2004-761591	20040121
WO 2004072008	A1	20040826	WO 2004-US3106	20040204
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

EP 1594829	A1	20051116	EP 2004-708153	20040204
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2004007115	A	20060110	BR 2004-7115	20040204
CN 1747919	A	20060315	CN 2004-80003631	20040204
PRIORITY APPLN. INFO.:			US 2003-445528P	P 20030206
			WO 2004-US3106	W 20040204

ED Entered STN: 13 Aug 2004

AB A method of manufacturing a phenol product having a reduced concentration of a contaminating reaction byproduct is described which includes contacting a phenol stream, having a concentration of the contaminating byproduct, by contacting the phenol stream with an **acidic catalyst** under suitable purification reaction conditions. Also included is a composition comprising a sec-butylbenzene-derived phenol product that has been purified by the removal of certain undesirable reaction byproducts through contact with an **acidic catalyst**. A process flow diagram is presented.

IC ICM C07C029-74

INCL 568810000

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
Section cross-reference(s): 25, 48, 67

ST phenol **catalytic** purifn

IT **Catalysts**
(**acidic** compns.; **catalytic** method for making high-purity phenol)

IT Cation exchangers
(**acidic**; **catalytic** method for making high-purity phenol)

IT Purification
(**catalytic** method for making high-purity phenol)

IT Y zeolites
Zeolites (synthetic), processes
RL: **CAT** (**Catalyst use**); **EPR** (Engineering process); **PEP** (Physical, engineering or chemical process); **PROC** (Process); **USES** (Uses)
(**catalytic** method for making high-purity phenol)

IT **Phenols, preparation**
RL: **EPR** (Engineering process); **IMF** (**Industrial manufacture**); **PEP** (Physical, engineering or chemical process); **PUR** (**Purification or recovery**); **PREP** (**Preparation**); **PROC** (Process)
(**catalytic** method for making high-purity phenol)

IT 116-09-6P, Hydroxyacetone 513-86-0P, 3-Hydroxy-2-butanone
5077-67-8P, 1-Hydroxy-2-butanone
RL: **BYP** (Byproduct); **EPR** (Engineering process); **PEP** (Physical, engineering or chemical process); **RCT** (Reactant); **PREP** (Preparation); **PROC** (Process); **RACT** (Reactant or reagent)
(**catalytic** method for making high-purity phenol)

IT 1344-28-1, **Alumina**, processes 7439-98-7, Molybdenum, processes
9037-24-5, Amberlyst 15
RL: **CAT** (**Catalyst use**); **EPR** (Engineering process); **PEP** (Physical, engineering or chemical process); **PROC** (Process); **USES** (Uses)
(**catalytic** method for making high-purity phenol)

IT 108-95-2P, Phenol, preparation
RL: **EPR** (Engineering process); **IMF** (**Industrial manufacture**); **PEP** (Physical, engineering or chemical process); **PUR** (**Purification or recovery**); **PREP** (**Preparation**); **PROC** (Process)
(**catalytic** method for making high-purity phenol)

IT 135-98-8, sec-Butylbenzene
RL: **EPR** (Engineering process); **PEP** (Physical, engineering or chemical process); **RCT** (Reactant); **PROC** (Process); **RACT** (Reactant or

reagent)

(catalytic method for making high-purity phenol)

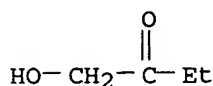
IT 5077-67-8P, 1-Hydroxy-2-butanone

RL: BYP (Byproduct); EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)

(catalytic method for making high-purity phenol)

RN 5077-67-8 CAPLUS

CN 2-Butanone, 1-hydroxy- (8CI, 9CI) (CA INDEX NAME)



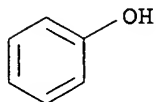
IT 108-95-2P, Phenol, preparation

RL: EPR (Engineering process); IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PREP (Preparation); PROC (Process)

(catalytic method for making high-purity phenol)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



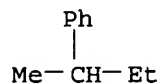
IT 135-98-8, sec-Butylbenzene

RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)

(catalytic method for making high-purity phenol)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 4 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:246557 CAPLUS

DOCUMENT NUMBER: 134:282462

TITLE: Manufacture of phenol, acetone and methyl ethyl ketone

INVENTOR(S): Pompetzki, Werner; Gerlich, Otto; Kleinloh, Werner

PATENT ASSIGNEE(S): Phenolchemie G.m.b.H. & Co. K.-G., Germany

SOURCE: Eur. Pat. Appl., 7 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.

KIND

DATE

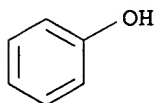
APPLICATION NO.

DATE


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EP 1088809      A1      20010404      EP 2000-117403      20000811
R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
    IE, SI, LT, LV, FI, RO
DE 19946888      A1      20010405      DE 1999-19946888      19990930
BG 104775         A      20010928      BG 2000-104775      20000919
JP 2001151710     A2      20010605      JP 2000-294173      20000927
CN 1290681        A      20010411      CN 2000-129071      20000929
PRIORITY APPLN. INFO.:      DE 1999-19946888      A 19990930
ED  Entered STN:  06 Apr 2001
AB  The Hock fragmentation of cumene hydroperoxide (I) produces equimol. amts.
    of PhOH and Me2CO but the fragmentation of hydroperoxides obtained from
    mixts. of I containing ≤25% sec-butylbenzene gives the mixts. of the
    title compds. where the ratio of individual compds. can be regulated. For
    example, oxidizing a mixture of 80% cumene and 20% EtCHMePh for 2.5 h at
    132° with O, concentrating the products in vacuo and subjecting the
    residue to heating at 50° in the presence of 2000 ppm H2SO4 gave
    the title compds. with the fragmentation yield >95% for Me2CO, 92.3 for
    EtCOMe and >99% for PhOH.
IC  ICM C07C037-08
    ICS C07C045-53
CC  45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
IT  7664-93-9, Sulfuric acid, uses
    RL: CAT (Catalyst use); USES (Uses)
        (fragmentation catalyst; manufacture of phenol, acetone and Me Et
        ketone by fragmentation of cumene and sec-butylbenzene hydroperoxides)
IT  67-64-1P, Acetone, preparation  78-93-3P, Methyl ethyl ketone,
    preparation 108-95-2P, Phenol, preparation
    RL: IMF (Industrial manufacture); PREP (Preparation)
        (manufacture of phenol, acetone and Me Et ketone by fragmentation of cumene
        and sec-butylbenzene hydroperoxides)
IT  98-82-8, Cumene 135-98-8, sec-Butylbenzene
    RL: RCT (Reactant); RACT (Reactant or reagent)
        (oxidation; manufacture of phenol, acetone and Me Et ketone by
        fragmentation of
        cumene and sec-butylbenzene hydroperoxides)
IT  108-95-2P, Phenol, preparation
    RL: IMF (Industrial manufacture); PREP (Preparation)
        (manufacture of phenol, acetone and Me Et ketone by fragmentation of cumene
        and sec-butylbenzene hydroperoxides)
RN  108-95-2  CAPLUS
CN  Phenol (8CI, 9CI)  (CA INDEX NAME)

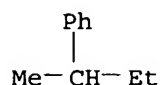
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IT  135-98-8, sec-Butylbenzene
    RL: RCT (Reactant); RACT (Reactant or reagent)
        (oxidation; manufacture of phenol, acetone and Me Et ketone by
        fragmentation of
        cumene and sec-butylbenzene hydroperoxides)
RN  135-98-8  CAPLUS
CN  Benzene, (1-methylpropyl)- (9CI)  (CA INDEX NAME)

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REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 5 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2001:246555 CAPLUS

DOCUMENT NUMBER: 134:266096

TITLE: Oxidative and bond-cleavage process for the preparation of phenol, methyl ethyl ketone and acetone from mixtures of secondary-butylbenzene and cumene

INVENTOR(S): Pompetzki, Werner; Gerlich, Otto; Kleinloh, Werner

PATENT ASSIGNEE(S): Phenolchemie G.m.b.H. & Co. K.-G., Germany

SOURCE: Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1088807	A1	20010404	EP 2000-117401	20000811
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19946887	A1	20010405	DE 1999-19946887	19990930
BG 104776	A	20010531	BG 2000-104776	20000919
JP 2001097901	A2	20010410	JP 2000-294583	20000927
BR 2000004487	A	20010529	BR 2000-4487	20000927
CN 1290682	A	20010411	CN 2000-129072	20000929

PRIORITY APPLN. INFO.: DE 1999-19946887 A 19990930

OTHER SOURCE(S): CASREACT 134:266096

ED Entered STN: 06 Apr 2001

AB Phenol, Me Et ketone, and acetone are prepared in high yield and selectivity by the oxidation of mixts. of secondary-butylbenzene and cumene (the cumene content in the mixture is 3-15%) with oxygen-containing gases (e.g., air) to form a mixture of secondary-butylbenzene hydroperoxide and cumene hydroperoxide which are subjected to bond cleavage in the presence of an acid (e.g., sulfuric acid) catalyst.

IC ICM C07C037-08

ICS C07C045-53

CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 23, 45

IT Acids, uses

RL: CAT (Catalyst use); USES (Uses)

(bond cleavage catalysts for the conversion of secondary-butylbenzene hydroperoxide and cumene hydroperoxide into phenol and MEK and acetone)

IT Decomposition catalysts

(bond cleavage catalysts; acids for the conversion of secondary-butylbenzene hydroperoxide and cumene hydroperoxide into phenol and MEK and acetone)

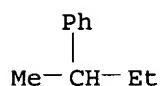
IT Bond cleavage

(catalysts; acids for the conversion of secondary-butylbenzene hydroperoxide and cumene hydroperoxide into phenol and MEK and acetone)

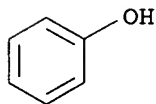
102(b)
Date

Not producing phenol

IT 98-82-8, Cumene 135-98-8 7782-44-7, Oxygen, reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidative and cleavage process for the preparation of phenol and MEK and acetone from mixts. of secondary-butylbenzene and cumene)
 IT 67-64-1P, Acetone, preparation 78-93-3P, MEK, preparation
 108-95-2P, Phenol, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (oxidative and cleavage process for the preparation of phenol and MEK and acetone from mixts. of secondary-butylbenzene and cumene)
 IT 135-98-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidative and cleavage process for the preparation of phenol and MEK and acetone from mixts. of secondary-butylbenzene and cumene)
 RN 135-98-8 CAPLUS
 CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



IT 108-95-2P, Phenol, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (oxidative and cleavage process for the preparation of phenol and MEK and acetone from mixts. of secondary-butylbenzene and cumene)
 RN 108-95-2 CAPLUS
 CN Phenol (8CI, 9CI) (CA INDEX NAME)



REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L19 ANSWER 6 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1994:486255 CAPLUS
 DOCUMENT NUMBER: 121:86255
 TITLE: Process for producing phenol and methyl ethyl ketone
 INVENTOR(S): Nishida, Hiroshi; Kimura, Kazuo; Hamada, Shouji; Toma, Masaaki; Nagaoka, Hirooki
 PATENT ASSIGNEE(S): Sumitomo Chemical Company, Ltd., Japan
 SOURCE: U.S., 7 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5304684	A	19940419	US 1993-86896	19930707
JP 06072921	A2	19940315	JP 1992-344333	19921224
JP 3367056	B2	20030114		
PRIORITY APPLN. INFO.:			JP 1992-179711	A 19920707
			JP 1992-344333	A 19921224

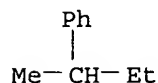
102(b)
Date

JP 1993-4493

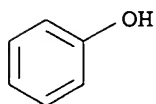
A 19930305

ED Entered STN: 20 Aug 1994
 AB Sec-butylbenzene hydroperoxide obtained by oxidizing sec-butylbenzene is decomposed into phenol and MEK, a resulting liquid comprising MEK as the main component is washed with an aqueous alkali solution to remove carboxylic acids, carboxylic acid esters, unsatd. ketones, and aldehydes, and the washed liquid is further subjected to neutralization, dehydration, and distillation MEK can be obtained which has a high quality with regard to purity and potassium permanganate fading.
 IC ICM C07C045-53
 INCL 568385000
 CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)
 IT 135-98-8, sec-Butylbenzene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (peroxidn. and decomposition of, for phenol and MEK)
 IT 78-93-3P, MEK, preparation 108-95-2P, Phenol, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (preparation of, by decomposition of butylbenzene hydroperoxide)
 IT 135-98-8, sec-Butylbenzene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (peroxidn. and decomposition of, for phenol and MEK)
 RN 135-98-8 CAPLUS
 CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

*What
is aqueous
alkali solution?*



IT 108-95-2P, Phenol, preparation
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (preparation of, by decomposition of butylbenzene hydroperoxide)
 RN 108-95-2 CAPLUS
 CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 7 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1994:438045 CAPLUS
 DOCUMENT NUMBER: 121:38045
 TITLE: Process for producing phenol and methyl ethyl ketone
 INVENTOR(S): Nishida, Hiroshi; Kimura, Kazuo; Hamada, Shouji; Toma, Masaaki; Nagaoka, Hirooki
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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EP 578194	A2	19940112	EP 1993-110771	19930706
EP 578194	B1	19980204		
R: BE, DE, FR, GB, IT, NL				
JP 06072921	A2	19940315	JP 1992-344333	19921224
JP 3367056	B2	20030114		
JP 06256238	A2	19940913	JP 1993-44923	19930305
CA 2099058	AA	19940108	CA 1993-2099058	19930623
PRIORITY APPLN. INFO.:			JP 1992-179711	A 19920707
			JP 1992-344333	A 19921224
			JP 1993-44923	A 19930305

ED Entered STN: 23 Jul 1994

AB Sec-Butylbenzene hydroperoxide obtained by oxidizing sec-butylbenzene is decomposed into phenol and MEK, a resulting liquid comprising MEK as the main component is washed with an aqueous alkali solution to remove carboxylic acids, carboxylic acid esters, unsatd. ketones, and aldehydes, and the washed liquid is further subjected to neutralization, dehydration, and distillation MEK prepared by this process has a high quality with regard to purity and potassium permanganate fading.

IC ICM C07C037-08

ICS C07C045-43; C07C037-74

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

IT 135-98-8, sec-Butylbenzene

RL: RCT (Reactant); RACT (Reactant or reagent)

(peroxidn. and decomposition of, for preparation of phenol and MEK)

IT 78-93-3P, MEK, preparation 108-95-2P, Phenol, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(preparation of, by peroxidn. and decomposition of sec-butylbenzene)

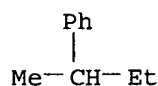
IT 135-98-8, sec-Butylbenzene

RL: RCT (Reactant); RACT (Reactant or reagent)

(peroxidn. and decomposition of, for preparation of phenol and MEK)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



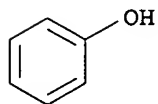
IT 108-95-2P, Phenol, preparation

RL: IMF (Industrial manufacture); PREP (Preparation)

(preparation of, by peroxidn. and decomposition of sec-butylbenzene)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 8 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1993:670797 CAPLUS

DOCUMENT NUMBER: 119:270797

TITLE: Preparation of phenol and methyl ethyl ketone by oxidation of sec-benzene

INVENTOR(S): Yamauchi, Kazuhiro; Tamura, Mitsuhisa

102(b) Data

PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05178773	A2	19930720	JP 1991-344978	19911226
JP 3089780	B2	20000918		

PRIORITY APPLN. INFO.: JP 1991-344978 19911226

ED Entered STN: 25 Dec 1993

AB The title preparation involves (1) oxidation of sec-butylbenzene (I) to obtain a reaction liquid containing sec-butylbenzene hydroperoxide (II) as the main component, (2) concentration of the oxidation reaction liquid by distillation to obtain a bottoms liquid containing II as the main component and a distillate containing I as the main component from the top of the distillation column., (3) contacting the latter bottoms liquid with an acid catalyst to decompose II into phenol and MeCOEt, (4) neutralization of the resulting decomposition liquid with an aqueous alkali solution, separation of the oil and the aqueous layer, and recycling a portion of the aqueous layer to the neutralization step, (5) washing the oil layer with water, separation of the oil layer containing phenol and MeCOEt as the main components, and recycling a part or all of the aqueous layer to the neutralization step, and (6) distillation of the oil layer to sep. phenol and MeCOEt. The water-rinse step efficiently removes aliphatic acid and inorg. salts, e.g. HCO₂Na, AcONa, and Na₂SO₄, and minimizes the content of the salts in the distillation liquid and thereby the process prevents deposition of salts in the distillation column and provides long-term operation with stability and high heat efficiency.

IC ICM C07C027-00
 ICS B01J027-02; C07C037-08; C07C039-04; C07C045-53; C07C049-10; C07C407-00; C07C409-08

ICA C07B061-00

CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

IT 135-98-8, sec-Butylbenzene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation of, sec-butylbenzene hydroperoxide from)

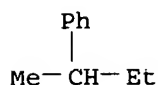
IT 52208-72-7P, sec-Butylbenzene hydroperoxide
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and decomposition of, in presence of concentrated sulfuric acid)

IT 78-93-3P, Methyl ethyl ketone, preparation 108-95-2P, Phenol, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, by oxidation of sec-butylbenzene to hydroperoxide and acid decomposition, process for)

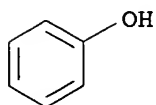
IT 135-98-8, sec-Butylbenzene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation of, sec-butylbenzene hydroperoxide from)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



IT 108-95-2P, Phenol, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, by oxidation of sec-butylbenzene to hydroperoxide and
 acid decomposition, process for)
 RN 108-95-2 CAPLUS
 CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 9 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1993:580528 CAPLUS
 DOCUMENT NUMBER: 119:180528
 TITLE: Preparation of phenol and methyl ethyl ketone from
 sec-butylbenzene
 INVENTOR(S): Iwanaga, Kiyoshi; Tamura, Mitsuhisa; Nakayama, Toshio;
 Usui, Masahiro; Umida, Hiroyuki; Nagaoka, Hirooki
 PATENT ASSIGNEE(S): Sumitomo Chemical Co., Ltd., Japan
 SOURCE: Eur. Pat. Appl., 15 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

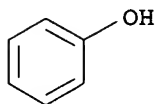
102(b)
Date

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 548986	A1	19930630	EP 1992-121983	19921224
EP 548986	B1	19960313		
R: BE, DE, FR, GB, IT, NL				
JP 05178772	A2	19930720	JP 1991-344977	19911226
JP 3089779	B2	20000918		
JP 05229972	A2	19930907	JP 1992-180768	19920708
JP 06032750	A2	19940208	JP 1992-186538	19920714
JP 3225605	B2	20011105		
CA 2082688	AA	19930627	CA 1992-2082688	19921112
CA 2082688	C	20030211		
US 5298667	A	19940329	US 1992-995971	19921223
KR 231625	B1	19991115	KR 1992-25538	19921224
PRIORITY APPLN. INFO.:			JP 1991-344976	A 19911226
			JP 1991-344977	A 19911226
			JP 1992-180768	A 19920708
			JP 1992-186538	A 19920714

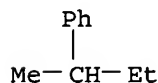
OTHER SOURCE(S): CASREACT 119:180528
 ED Entered STN: 30 Oct 1993
 AB The title process comprises the steps of: I) oxidizing one material
 selected from: A) sec-butylbenzene substantially free from Et
 hydroperoxide, carboxylic acids and phenol, B) sec-butylbenzene
 substantially free from styrenes, and C) sec-butylbenzene substantially

free from methylbenzyl alc., to obtain sec-butylbenzene hydroperoxide, and II) decomposition the sec-butylbenzene hydroperoxide. Thus, oxidation of sec-butylbenzene containing 0.0084 weight% methylbenzyl alc. in air gave 12.81 weight% sec-butylbenzene hydroperoxide, whereas, similar oxidation of sec-butylbenzene containing 0.1067 weight% methylbenzyl alc. gave 5.29 weight% sec-butylbenzene hydroperoxide.

IC ICM C07C409-08
ICS C07C037-08; C07C039-04; C07C045-53; C07C049-10
CC 25-16 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 45
IT 78-93-3P, Methyl ethyl ketone, preparation 108-95-2P, Phenol, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from butylbenzene, process for)
IT 135-98-8, sec-Butylbenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in synthesis of phenol and Me Et ketone)
IT 108-95-2P, Phenol, preparation
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, from butylbenzene, process for)
RN 108-95-2 CAPLUS
CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT 135-98-8, sec-Butylbenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in synthesis of phenol and Me Et ketone)
RN 135-98-8 CAPLUS
CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 10 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 1992:427344 CAPLUS
DOCUMENT NUMBER: 117:27344
TITLE: Study on the photooxidation of polystyrene
AUTHOR(S): Yan, Fenshun; Zhen, Jie
CORPORATE SOURCE: Harbin. Univ. Sci. Tech., Harbing, Peop. Rep. China
SOURCE: Harbin Kexue Jishu Daxue Xuebao (1991), 15(3), 114-20
CODEN: HKJXET; ISSN: 1000-5897
DOCUMENT TYPE: Journal
LANGUAGE: Chinese
ED Entered STN: 26 Jul 1992
AB The IR absorptions at 3540 cm⁻¹ and 3440 cm⁻¹ after photooxidn. of polystyrene were due to the formation of -OH and -OOH group as confirmed by the photooxidn. products of the 2-phenylbutane (I) model compound I was photooxidized to give 2-phenylbutanol and 2-hydroperoxy-2-phenylbutane, which were further oxidized to give PhOH and p,p'-diphenol. Photooxidative chain scission of I proceeded through oxidation breakage of

the main chain to give PhOH and diphenol by one route and to give low-mol.-weight compds. and formation of carbonyl and Ph compds. by another.

CC 35-8 (Chemistry of Synthetic High Polymers)

IT 92-88-6P, p,p'-Diphenol 108-95-2P, Phenol, preparation
1565-75-9P, 2-Phenyl-2-butanol 18428-18-7P

RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, during photooxidn. of phenylbutane as model for polystyrene)

IT 135-98-8, 2-Phenylbutane

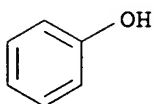
RL: RCT (Reactant); RACT (Reactant or reagent)
(photooxidn. of, as model for polystyrene)

IT 108-95-2P, Phenol, preparation

RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, during photooxidn. of phenylbutane as model for polystyrene)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)

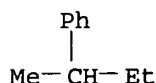


IT 135-98-8, 2-Phenylbutane

RL: RCT (Reactant); RACT (Reactant or reagent)
(photooxidn. of, as model for polystyrene)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 11 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:408292 CAPLUS

DOCUMENT NUMBER: 115:8292

TITLE: Process for simultaneous preparation of methyl ethyl ketone and phenol

INVENTOR(S): Unger, Thomas Alfred

PATENT ASSIGNEE(S): Brazil

SOURCE: Braz. Pedido PI, 9 pp.

CODEN: BPXXDX

DOCUMENT TYPE: Patent

LANGUAGE: Portuguese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
BR 8901852	A	19901106	BR 1989-1852	19890414
PRIORITY APPLN. INFO.:			BR 1989-1852	19890414

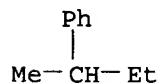
ED Entered STN: 12 Jul 1991

AB MEK and PhOH are simultaneously prepared by oxidation of sec-BuPh (I) with air or O, followed by cleavage of the resultant hydroperoxide PhC(OOH)(Me)Et (II). The oxidation of I is preferably done at 80-180° and 3-7 bar in

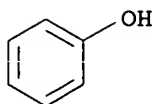
102(b)
Date

the presence of alkaline salts of Pb, Sb, Sn, or Bi (<1/10,000 by weight Na ion vs. I), with a concentration of <27% II, 15-25% conversion of I, and reaction time 1-10 h. For rearrangement of II to MEK and PhOH, preferred conditions are 50-80°, anhydrous, 0.1-1.2 weight% acid in mixture, pressure <1 bar, residence time 10-40 min., and a S-containing catalyst.

- IC ICM C07C027-28
ICS C07C039-04; C07C049-10
- CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 23
- ST butylbenzene oxidn catalyst; hydroperoxide butylbenzene rearrangement cleavage catalyst; phenol MEK simultaneous prepn; methyl ethyl ketone phenol prepn
- IT Oxidation catalysts
(lead, antimony, tin, and bismuth alkaline salts, for sec-butylbenzene to hydroperoxide)
- IT Rearrangement catalysts
(sulfur-containing, for sec-butylbenzene hydroperoxide to MEK and phenol)
- IT 7704-34-9, Sulfur, uses and miscellaneous
RL: CAT (Catalyst use); USES (Uses)
(catalysts containing, for rearrangement of sec-butylbenzene hydroperoxide to MEK and phenol)
- IT 7439-92-1D, Lead, alkaline salts 7440-31-5D, Tin, alkaline salts
7440-36-0D,
Antimony, alkaline salts 7440-69-9D, Bismuth, alkaline salts
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for oxidation of sec-butylbenzene to hydroperoxide)
- IT 135-98-8, sec-Butylbenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, to hydroperoxide, in simultaneous preparation of MEK and phenol)
- IT 108-95-2P, Phenol, preparation
RL: PREP (Preparation)
(simultaneous production of MEK and, from sec-butylbenzene via hydroperoxide)
- IT 135-98-8, sec-Butylbenzene
RL: RCT (Reactant); RACT (Reactant or reagent)
(oxidation of, to hydroperoxide, in simultaneous preparation of MEK and phenol)
- RN 135-98-8 CAPLUS
- CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



- IT 108-95-2P, Phenol, preparation
RL: PREP (Preparation)
(simultaneous production of MEK and, from sec-butylbenzene via hydroperoxide)
- RN 108-95-2 CAPLUS
- CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 12 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1990:517403 CAPLUS

DOCUMENT NUMBER: 113:117403

TITLE: Oxidation of isobutylbenzene with molecular oxygen in liquid phase

AUTHOR(S): Burghardt, Aleksandra

CORPORATE SOURCE: Inst. Chem. Technol. Org., Polytech. Slaska, Gliwice, 44-100, Pol.

SOURCE: Chemia Stosowana (1988), 32(3-4), 523-33

CODEN: CHSWAP; ISSN: 0376-0898

DOCUMENT TYPE: Journal

LANGUAGE: Polish

ED Entered STN: 29 Sep 1990

AB Oxidation occurred mostly on the α - and β -C atoms (60 and 40%, resp.) of $\text{Me}_2\text{CHCH}_2\text{Ph}$ (I). The oxidation products contained $\text{PhCH}(\text{CHMe}_2)\text{OOH}$, $\text{PhCH}_2\text{CMe}_2\text{OOH}$, and the corresponding alcs., BzH , BzOH , PhOH , BzCHMe_2 , Me_2CO , Me_2CHOH , $\text{Me}_2\text{CHCO}_2\text{H}$, AcOH , HCO_2H , and H_2O as found chromatog. Free-radical reactions leading to those products were proposed. Reactivity of hydrocarbons in the oxidation process at 100° increased in the order I, PhBu , PhCH_2Me , and PhCHMe_2 .

CC 45-4 (Industrial Organic Chemicals, Leather, Fats, and Waxes)

IT Alcohols, preparation

Carboxylic acids, preparation

RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, in oxidation of isobutylbenzene, with mol. oxygen, in liquid phase)

IT 64-18-6P, Formic acid, preparation 64-19-7P, Acetic

acid, preparation 65-85-0P, Benzoic acid, preparation

67-63-0P, 2-Propanol, preparation 67-64-1P, Acetone, preparation

79-31-2P, Isobutyric acid 100-52-7P, Benzaldehyde, preparation

100-86-7P 108-95-2P, Phenol, preparation 611-69-8P 611-70-1P

1944-83-8P 91900-70-8P

RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, in oxidation of isobutylbenzene, with mol. oxygen, in liquid phase)

IT 98-82-8, Cumene 104-51-8, Butylbenzene 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation of, reactivity in)

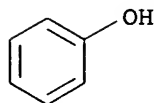
IT 108-95-2P, Phenol, preparation

RL: FORM (Formation, nonpreparative); PREP (Preparation)

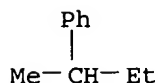
(formation of, in oxidation of isobutylbenzene, with mol. oxygen, in liquid phase)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



IT 135-98-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation of, reactivity in)
 RN 135-98-8 CAPLUS
 CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 13 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:74975 CAPLUS

DOCUMENT NUMBER: 108:74975

TITLE: Phenol, acetone, and methyl ethyl ketone from
 sec-butylbenzene and cumene hydroperoxide

INVENTOR(S): Yamamoto, Minoru; Yoshino, Kenji; Sasaki, Toshiki;
 Mizuno, Takehisa

PATENT ASSIGNEE(S): Dainippon Ink and Chemicals, Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

102(b)
Date

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62114922	A2	19870526	JP 1985-252856	19851113
PRIORITY APPLN. INFO.:			JP 1985-252856	19851113

ED Entered STN: 05 Mar 1988

AB Phenol, Me₂CO, and MeCOEt (I) were prepared by liquid-phase oxidation of
 sec-BuPh

(II) with mol. O-containing gas in the presence of cumene (III) or cumene
 hydroperoxide. Thus, mixing II and III 4 h at 120° and 5
 kg/cm²-gage while bubbling in air and adding 2% aqueous NaOH to keep the
 solution

from being acidic, concentration, and heating with H₂SO₄ in Me₂CO 30
 min at ≤50° gave PhOH, Me₂CO, and I each in 95% yield.

IC ICM C07C027-12

ICS C07C039-04; C07C049-10

ICA B01J027-02

CC 25-10 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)

Section cross-reference(s): 23

ST phenol prepn decompn butylbenzene hydroperoxide; acetone prepn decompn
 cumene hydroperoxide; MEK prepn decompn butylbenzene hydroperoxide; oxidn
 butylbenzene liq phase; cumene catalyst oxidn butylbenzene

IT Oxidation catalysts

(cumene or cumene hydroperoxide, for butylbenzene)

IT 80-15-9, Cumene hydroperoxide 98-82-8, Cumene

RL: CAT (Catalyst use); USES (Uses)

(catalyst, for oxidation of butylbenzene)

IT 135-98-8, sec-Butylbenzene

RL: RCT (Reactant); RACT (Reactant or reagent)

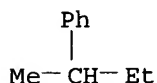
(oxidation of, cumene or cumene hydroperoxide catalysts for)

IT 108-95-2P, Phenol, preparation

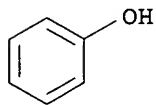
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of, by decomposition of butylbenzene hydroperoxide and cumene

hydroperoxide)
 IT 135-98-8, sec-Butylbenzene
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation of, cumene or cumene hydroperoxide catalysts for)
 RN 135-98-8 CAPLUS
 CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



IT 108-95-2P, Phenol, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, by decomposition of butylbenzene hydroperoxide and cumene hydroperoxide)
 RN 108-95-2 CAPLUS
 CN Phenol (8CI, 9CI) (CA INDEX NAME)

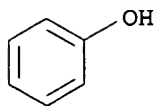


L19 ANSWER 14 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1980:84830 CAPLUS
 DOCUMENT NUMBER: 92:84830
 TITLE: Electrochemical oxidation of secondary butylbenzene on a platinum electrode in the presence of manganese sulfate
 AUTHOR(S): Solomin, A. V.; Antropova, V. I.; Komarova, E. N.
 CORPORATE SOURCE: USSR
 SOURCE: Issled. Geterogen. Sistem., Alma-Ata (1979) 180-2
 From: Ref. Zh., Khim. 1979, Abstr. No. 22B1481
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 ED Entered STN: 12 May 1984
 AB Title only translated.
 CC 72-8 (Electrochemistry)
 IT Oxidation, electrochemical
 (of sec-butylbenzene, on platinum in sulfuric acid containing manganese sulfate)
 IT 78-93-3P, preparation 98-86-2P, preparation 108-95-2P, preparation 118-90-1P
 RL: FORM (Formation, nonpreparative); PREP (Preparation)
 (formation of, in electrochem. oxidation of sec-butylbenzene)
 IT 135-98-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation of, electrochem. on platinum in sulfuric acid containing manganese sulfate)
 IT 7785-87-7
 RL: PRP (Properties)
 (sec-butylbenzene electrochem. oxidation on platinum in sulfuric acid containing)
 IT 108-95-2P, preparation
 RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, in electrochem. oxidation of sec-butylbenzene)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



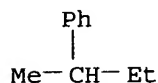
IT 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation of, electrochem. on platinum in sulfuric acid containing manganese sulfate)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 15 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1980:42563 CAPLUS

DOCUMENT NUMBER: 92:42563

TITLE: Photooxidation of polystyrene. Part I. Formation of hydroperoxide groups in photooxidized polystyrene and 2-phenyl butane

AUTHOR(S): Lucki, Julia; Raanby, Bengt

CORPORATE SOURCE: Dep. Polym. Technol., R. Inst. Technol., Stockholm, Swed.

SOURCE: Polymer Degradation and Stability (1979), 1(1), 1-16
CODEN: PDSTDW; ISSN: 0141-3910

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 May 1984

AB The primary products formed during UV irradiation of polystyrene (I) [9003-53-6] at 253 nm in air were polymer alkyl and polymer peroxy radicals. Cleavage of polymer oxy radicals led to direct formation of aliphatic keto groups on the polymer backbone and Ph radicals without disruption of the polymer chain. OOH groups in I were formed at the tertiary C atoms and had IR absorption at 3540 cm⁻¹. OH groups in I at the tertiary C atoms had IR absorption at 3440 cm⁻¹. The findings were supported by the formation of 2-phenyl-2-butanol [1565-75-9], 2-(hydroperoxy)-2-phenylbutane [18428-18-7], phenol [108-95-2], and p,p'-bisphenol [92-88-6] during the fast photooxidn. of the model 2-phenylbutane [135-98-8] at 253 nm. Hydroperoxy acid groups were not formed during the photooxidn. of I.

CC 35-6 (Synthetic High Polymers)

IT 92-88-6P 108-95-2P, preparation 1565-75-9P 18428-18-7P

RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, in photooxidn. of phenylbutane)

IT 135-98-8 9003-53-6

RL: RCT (Reactant); RACT (Reactant or reagent)

(photooxidn. of, hydroperoxide group formation in)

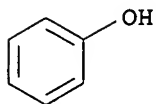
IT 108-95-2P, preparation

RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, in photooxidn. of phenylbutane)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



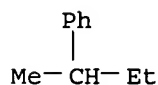
IT 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(photooxidn. of, hydroperoxide group formation in)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 16 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1979:121113 CAPLUS

DOCUMENT NUMBER: 90:121113

TITLE: Alkaline fusion of alkylbenzenesulfonic acids

AUTHOR(S): Bikkulov, A. Z.; Saifutdinov, A. Z.; Yukhno, G. F.

CORPORATE SOURCE: USSR

SOURCE: Zhurnal Prikladnoi Khimii (Sankt-Peterburg, Russian Federation) (1978), 51(12), 2754-8

CODEN: ZPKHAB; ISSN: 0044-4618

DOCUMENT TYPE: Journal

LANGUAGE: Russian

ED Entered STN: 12 May 1984

AB A study of the alkaline fusion (KOH) of 11 Na alkylbenzenesulfonates (toluenesulfonic, xylenesulfonic, sec- and tert-butylbenzenesulfonate, etc.) to give phenolic compds. showed the following: (a) increasing the size and number of the alkyl groups gave a reduced yield of the phenolic products, (b) dialkylbenzenesulfonates having the alkyl groups in the o- and p-positions to the sulfonate group exhibited greater reactivity than those having groups in the o- and m-positions, (c) alkaline fusion of isoalkylbenzenesulfonates took place at lower temps. than n-alkylbenzenesulfonates.

CC 25-13 (Noncondensed Aromatic Compounds)

IT 88-69-7P 90-00-6P 95-48-7P, preparation 95-65-8P 95-87-4P
 98-54-4P 99-71-8P 99-89-8P 105-67-9P 106-44-5P, preparation
 108-39-4P, preparation 108-68-9P 108-95-2P, preparation
 123-07-9P 496-78-6P 526-75-0P 526-85-2P 527-35-5P 527-60-6P
 576-26-1P 1638-22-8P

RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, from alkaline fusion of benzenesulfonate)

IT 71-43-2, reactions 95-63-6 95-93-2 98-06-6 98-82-8 100-41-4,
 reactions 106-42-3, reactions 108-38-3, reactions 108-88-3,
 reactions 135-98-8 1077-16-3

RL: RCT (Reactant); RACT (Reactant or reagent)

(sulfonation of)

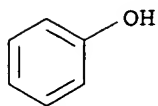
IT 108-95-2P, preparation

RL: FORM (Formation, nonpreparative); PREP (Preparation)

(formation of, from alkaline fusion of benzenesulfonate)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)

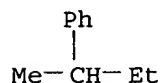


IT 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(sulfonation of)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 17 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1978:120326 CAPLUS

DOCUMENT NUMBER: 88:120326

TITLE: Oxyfunctionalization of hydrocarbons. 8.
Electrophilic hydroxylation of benzene, alkylbenzenes,
and halobenzenes with hydrogen peroxide in superacids

AUTHOR(S): Olah, George A.; Ohnishi, Ryuichiro

CORPORATE SOURCE: Inst. Hydrocarb. Chem., Univ. South. California, Los
Angeles, CA, USASOURCE: Journal of Organic Chemistry (1978), 43(5), 865-7
CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 88:120326

ED Entered STN: 12 May 1984

AB The hydroxylation of benzene, alkylbenzenes, and halobenzenes with H2O2
was carried out in high yields in superacidic media, e.g., FSO3H-SO2ClF or
FSO3H-SbF2-SO2Cl, at low temps. Phenols formed are protonated by the
superacid and thus are deactivated against further electrophilic attack or
secondary oxidation. The hydroxyarenium intermediates in some cases undergo
1,2-methyl shift.

CC 22-5 (Physical Organic Chemistry)

IT Phenols, preparation

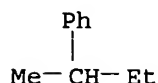
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, by hydroxylation of benzenes)IT 71-43-2, reactions 95-47-6, reactions 95-63-6 100-41-4, reactions
106-42-3, reactions 108-38-3, reactions 108-67-8, reactions
108-88-3, reactions 108-90-7, reactions 135-98-8 462-06-6
526-73-8 538-68-1 538-93-2RL: RCT (Reactant); RACT (Reactant or reagent)
(hydroxylation of, with hydrogen peroxide)

IT 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)
(hydroxylation of, with hydrogen peroxide)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)

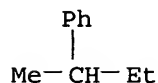


L19 ANSWER 18 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

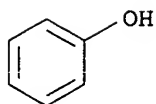
ACCESSION NUMBER: 1977:189486 CAPLUS
 DOCUMENT NUMBER: 86:189486
 TITLE: Phenol and 2-butanone from sec-butylbenzene
 INVENTOR(S): Mikami, Ichiro; Danno, Sadao; Uchida, Izuhiko; Tazaki, Yasutaka; Kugimoto, Junichi; Okahara, Etsuo
 PATENT ASSIGNEE(S): Ube Industries, Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51133239	A2	19761118	JP 1975-55477	19750513
PRIORITY APPLN. INFO.:			JP 1975-55477	A 19750513

ED Entered STN: 12 May 1984
 AB PhOH and MeCOEt were prepared from MeEtCHPh by liquid-phase oxidation with O in the presence of HBr. Thus, 4.28 g MeEtCHPh in 1,2-dichloroethane was placed under 1 atm HBr and 1.84 atm HCl in an autoclave and treated with O at 55° for 15 min to give 48.1% PhOH and 42.8% MeCOEt with 2.27 g MeEtCHPh conversion.
 IC C07C039-04
 CC 25-10 (Noncondensed Aromatic Compounds)
 IT Oxidation catalysts
 (hydrogen bromide, for sec-butylbenzene to phenol and 2-butanone)
 IT 135-98-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation of, phenol and 2-butanone from)
 IT 78-93-3P, preparation 108-95-2P, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, by oxidation of butylbenzene)
 IT 135-98-8
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (oxidation of, phenol and 2-butanone from)
 RN 135-98-8 CAPLUS
 CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



IT 108-95-2P, preparation
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, by oxidation of butylbenzene)
 RN 108-95-2 CAPLUS
 CN Phenol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 19 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1975:3877 CAPLUS

DOCUMENT NUMBER: 82:3877

TITLE: Hydroperoxides from the autocatalytic oxidation of sec-butylbenzene

AUTHOR(S): Georgiou, Lakis; Da Costa, Antony L.; Johnson, Herb S.

CORPORATE SOURCE: Shawinigan Chem. Div., Gulf Oil Canada Ltd., Ste. Anne de Bellevue, QC, Can.

SOURCE: Industrial & Engineering Chemistry Product Research and Development (1974), 13(4), 253-5
CODEN: IEPRA6; ISSN: 0196-4321

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 12 May 1984

AB Evidence is presented for the existence of a secondary as well as a tertiary hydroperoxide in the oxidate from sec-butylbenzene. The evidence is based on a comparison of the kinetics of cleavage of cumene and sec-butylbenzene oxidates and anal. of the cleaved product from sec-butylbenzene oxidate.

CC 25-2 (Noncondensed Aromatic Compounds)
Section cross-reference(s): 22

IT 93-55-0P 98-86-2P, preparation 108-95-2P, preparation
122-79-2P 769-59-5P 1502-79-0P 1502-80-3P 1565-75-9P

RL: PREP (Preparation)

(by oxidation of sec-butylbenzene)

IT 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation of, formation of secondary hydroperoxide in)

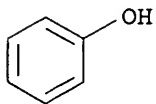
IT 108-95-2P, preparation

RL: PREP (Preparation)

(by oxidation of sec-butylbenzene)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



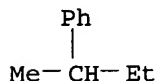
IT 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation of, formation of secondary hydroperoxide in)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



L19 ANSWER 20 OF 20 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1973:515304 CAPLUS

DOCUMENT NUMBER: 79:115304

TITLE: sec-Butylbenzene hydroperoxide for making phenol, acetophenone, and methyl ethyl ketone

INVENTOR(S): Wolf, Philip Frank

PATENT ASSIGNEE(S): Union Carbide Corp.

SOURCE: Ger. Offen., 23 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2300903	A1	19730802	DE 1973-2300903	19730109
JP 48080524	A2	19731029	JP 1973-5001	19730109
FR 2182802	A1	19731214	FR 1973-599	19730109
FR 2183296	A1	19731214	FR 1973-22292	19730619

PRIORITY APPLN. INFO.: US 1972-216788 A 19720110

ED Entered STN: 12 May 1984

AB EtCMePhOOH was prepared by oxidation of EtCHMePh, containing <1% Me₂CHCH₂Ph and essentially free of S and olefins, by an O-containing gas at 75-100°. MeCOPh and EtCMePhOH were obtained as significant by-products.

IC C07C

CC 25-11 (Noncondensed Aromatic Compounds)

IT 78-93-3P, preparation 108-95-2P, preparation

RL: PREP (Preparation)

(from sec-butylbenzene)

IT 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation of, to hydroperoxide)

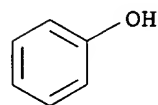
IT 108-95-2P, preparation

RL: PREP (Preparation)

(from sec-butylbenzene)

RN 108-95-2 CAPLUS

CN Phenol (8CI, 9CI) (CA INDEX NAME)



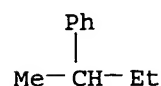
IT 135-98-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(oxidation of, to hydroperoxide)

RN 135-98-8 CAPLUS

CN Benzene, (1-methylpropyl)- (9CI) (CA INDEX NAME)



10/761,591

Gale

=>